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FILE 'HOME' ENTERED AT 23:16:34 ON 10 JUN 2004

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                                                           ENTRY    SESSION
FULL ESTIMATED COST                                         0.21       0.21

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FILE COVERS 1907 - 10 Jun 2004  VOL 140 ISS 24
FILE LAST UPDATED: 9 Jun 2004  (20040609/ED)

  This file contains CAS Registry Numbers for easy and accurate
  substance identification.


=> s butenol
           980 BUTENOL
           148 BUTENOLS
L1        1074 BUTENOL
                (BUTENOL OR BUTENOLS)

=> s l1 and ((copper(w) catalyst) or (zinc (w) catalyst))
        806818 COPPER
           411 COPPERS
        806881 COPPER
                (COPPER OR COPPERS)
        657649 CATALYST
        662215 CATALYSTS
        842663 CATALYST
                (CATALYST OR CATALYSTS)
          8257 COPPER(W) CATALYST
        523861 ZINC
            94 ZINCS
        523880 ZINC
                (ZINC OR ZINCS)
        657649 CATALYST
        662215 CATALYSTS
        842663 CATALYST
                (CATALYST OR CATALYSTS)
          1920 ZINC (W) CATALYST
L2           8 L1 AND ((COPPER(W) CATALYST) OR (ZINC (W) CATALYST))

=> d l2 1-8 kwic

L2   ANSWER 1 OF 8  CAPLUS  COPYRIGHT 2004 ACS on STN
TI   Process for the preparation of alkyl-substituted butenols
AB   . . .  R2CH2CHO in an inert organic solvent, followed by reduction of the
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|---|---|---|---|
| NEWS | 1 | | Web Page URLs for STN Seminar Schedule - N. America |
| NEWS | 2 | | "Ask CAS" for self-help around the clock |
| NEWS | 3 | JAN 27 | Source of Registration (SR) information in REGISTRY updated and searchable |
| NEWS | 4 | JAN 27 | A new search aid, the Company Name Thesaurus, available in CA/CAplus |
| NEWS | 5 | FEB 05 | German (DE) application and patent publication number format changes |
| NEWS | 6 | MAR 03 | MEDLINE and LMEDLINE reloaded |
| NEWS | 7 | MAR 03 | MEDLINE file segment of TOXCENTER reloaded |
| NEWS | 8 | MAR 03 | FRANCEPAT now available on STN |
| NEWS | 9 | MAR 29 | Pharmaceutical Substances (PS) now available on STN |
| NEWS | 10 | MAR 29 | WPIFV now available on STN |
| NEWS | 11 | MAR 29 | New monthly current-awareness alert (SDI) frequency in RAPRA |
| NEWS | 12 | APR 26 | PROMT: New display field available |
| NEWS | 13 | APR 26 | IFIPAT/IFIUDB/IFICDB: New super search and display field available |
| NEWS | 14 | APR 26 | LITALERT now available on STN |
| NEWS | 15 | APR 27 | NLDB: New search and display fields available |
| NEWS | 16 | May 10 | PROUSDDR now available on STN |
| NEWS | 17 | May 19 | PROUSDDR: One FREE connect hour, per account, in both May and June 2004 |
| NEWS | 18 | May 12 | EXTEND option available in structure searching |
| NEWS | 19 | May 12 | Polymer links for the POLYLINK command completed in REGISTRY |
| NEWS | 20 | May 17 | FRFULL now available on STN |
| NEWS | 21 | May 27 | STN User Update to be held June 7 and June 8 at the SLA 2004 Conference |
| NEWS | 22 | May 27 | New UPM (Update Code Maximum) field for more efficient patent SDIs in CAplus |
| NEWS | 23 | May 27 | CAplus super roles and document types searchable in REGISTRY |
| NEWS | 24 | May 27 | Explore APOLLIT with free connect time in June 2004 |

| | |
|---|---|
| NEWS EXPRESS | MARCH 31 CURRENT WINDOWS VERSION IS V7.00A, CURRENT MACINTOSH VERSION IS V6.0c(ENG) AND V6.0Jc(JP), AND CURRENT DISCOVER FILE IS DATED 26 APRIL 2004 |
| NEWS HOURS | STN Operating Hours Plus Help Desk Availability |
| NEWS INTER | General Internet Information |
| NEWS LOGIN | Welcome Banner and News Items |
| NEWS PHONE | Direct Dial and Telecommunication Network Access to STN |
| NEWS WWW | CAS World Wide Web Site (general information) |

Enter NEWS followed by the item number or name to see news on that specific topic.

resulting R1CH2CH:CR2CHO in the presence of an, optionally calcined, copper-**zinc catalyst**. Thus, aldol condensation of α-campholenealdehyde with EtCHO gave unsatd. aldehyde I (R = CHO), which was reduced with a calcined copper-**zinc catalyst** in EtOH to give unsatd. alc. I (R = CH2OH). I can be used in perfumes and cosmetic prepns.

ST **butenol** alkyl substituted prepn; aldehyde aldol condensation; campholenealdehyde aldol condensation propionaldehyde; cyclopentenylbutenal prepn redn copper **zinc catalyst**; cyclopentenylbutenol tetramethyl deriv prepn; alkylbutenol perfume component prepn

IT Perfumes
(ingredients; preparation of alkyl-substituted **butenols** via reduction of aldehydes with a copper-**zinc catalyst**)

IT Aldol condensation
Reduction
Reduction catalysts
(preparation of alkyl-substituted **butenols** via reduction of aldehydes with a copper-**zinc catalyst**)

IT 7440-50-8D, **Copper**, **catalyst** with zinc, uses
7440-66-6D, **Zinc**, **catalyst** with copper, uses
RL: CAT (Catalyst use); USES (Uses)
(preparation of alkyl-substituted **butenols** via reduction of aldehydes with a copper-**zinc catalyst**)

IT 123-38-6, Propanal, reactions 4501-58-0
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation of alkyl-substituted **butenols** via reduction of aldehydes with a copper-**zinc catalyst**)

IT 185738-36-7P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation of alkyl-substituted **butenols** via reduction of aldehydes with a copper-**zinc catalyst**)

IT 185068-68-2P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of alkyl-substituted **butenols** via reduction of aldehydes with a copper-**zinc catalyst**)

L2 ANSWER 2 OF 8 CAPLUS COPYRIGHT 2004 ACS on STN

ST hydroxylation chlorobutene polymer support catalyst; **butenol** copper asym polymer catalyst

IT Hydroxylation
(asym., of chlorobutene to **butenol**, asym. polymeric supports for)

IT Asymmetric synthesis and induction
(of **butenol** by hydroxylation of chlorobutene, asym. polymeric supports for)

IT Hydroxylation catalysts
(stereoselective, ascorbic acid-copper, for chlorobutene to **butenol**, asym. polymeric supports for)

IT 7440-50-8, Copper, uses
RL: CAT (Catalyst use); USES (Uses)
(catalysts, containing ascorbic acid, asym. polymer supports for, for hydroxylation of chlorobutene to **butenol**)

IT 50-81-7, Ascorbic acid, uses
RL: CAT (Catalyst use); USES (Uses)
(catalysts, containing copper, asym. polymer supports for, for hydroxylation of chlorobutene to **butenol**)

IT 31369-44-5 82730-95-8
RL: USES (Uses)
(supports, for ascorbic acid-**copper catalysts**, in hydroxylation of chlorobutene to **butenol**)

L2 ANSWER 3 OF 8 CAPLUS COPYRIGHT 2004 ACS on STN

ST copper hydrogenation catalyst thiophene poisoning; crotonaldehyde

hydrogenation catalyst poisoning; **butenol** selectivity
crotonaldehyde hydrogenation

IT 110-02-1, Thiophene
RL: USES (Uses)
(**copper catalysts** poisoned by, in hydrogenation of crotonaldehyde, activity and selectivity in relation to)

IT 71-36-3P, 1-Butanol, preparation 123-72-8P, Butanal 6117-91-5P, Crotyl alcohol
RL: FORM (Formation, nonpreparative); PREP (Preparation)
(formation of, in hydrogenation of crotonaldehyde in presence of **copper catalysts**, thiophene poisoning effect on)

IT 4170-30-3, Crotonaldehyde
RL: RCT (Reactant); RACT (Reactant or reagent)
(hydrogenation of, **copper catalysts** for, activity and selectivity of, thiophene poisoning effect on)

L2 ANSWER 4 OF 8 CAPLUS COPYRIGHT 2004 ACS on STN
ST dihydrofuran dihydropyran lithio coupling Grignard; Grignard coupling organolithium **copper catalyst**; metalate rearrangement organocuprate; **butenol**; pentenol

L2 ANSWER 5 OF 8 CAPLUS COPYRIGHT 2004 ACS on STN
ST senecioaldehyde; prenol oxidn silver **copper catalyst**; magnesium oxide catalyst prenol oxidn; methylbutenal; butenal methyl; methylbutenol oxidn; **butenol** methyl oxidn

L2 ANSWER 6 OF 8 CAPLUS COPYRIGHT 2004 ACS on STN
ST allyl phosphate Grignard regiochem stereochem; **copper catalyst** allyl phosphate Grignard; geraniol; butterfly pheromone dimethyloctenediol; methyloctenediol

IT 106-24-1P 106-25-2P 66113-31-3P 91892-30-7P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of, from (benzyloxymethyl)**butenol** and methylbutenyl chloride)

L2 ANSWER 7 OF 8 CAPLUS COPYRIGHT 2004 ACS on STN
ST dehydrogenation unsatd alc copper; **butenol** dehydrogenation; aldehyde unsatd

IT Alcohols, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(dehydrogenation of unsatd., **copper catalysts** for)

IT 763-32-6
RL: RCT (Reactant); RACT (Reactant or reagent)
(dehydrogenation of, **copper catalyst** for)

L2 ANSWER 8 OF 8 CAPLUS COPYRIGHT 2004 ACS on STN
ST dehydrogenation unsatd alc copper; aldehyde unsatd; **butenol** dehydrogenation

IT Alcohols, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(dehydrogenation of unsatd., **copper catalysts** for)

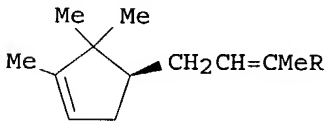
=> d l2 1, 3, 7, 8 ibib, iabs

L2 ANSWER 1 OF 8 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1997:80398 CAPLUS
DOCUMENT NUMBER: 126:89597
TITLE: Process for the preparation of alkyl-substituted **butenols**
INVENTOR(S): Markert, Thomas; Porrmann, Volker
PATENT ASSIGNEE(S): Henkel Kgaa, Germany
SOURCE: Ger. Offen., 6 pp.
CODEN: GWXXBX
DOCUMENT TYPE: Patent

LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| DE 19520103 | A1 | 19961205 | DE 1995-19520103 | 19950601 |
| WO 9638401 | A1 | 19961205 | WO 1996-EP2212 | 19960523 |

W: JP, US
RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE
PRIORITY APPLN. INFO.: DE 1995-19520103 19950601
OTHER SOURCE(S): CASREACT 126:89597; MARPAT 126:89597
GRAPHIC IMAGE:




I

ABSTRACT:
Alkylbutenols, R1CH2CH:CR2CH2OH [R1 = C4-16-(un)substituted alkyl, alkenyl, cycloalkyl; R2 = H, C1-6-alkyl] are prepared in high yield and purity via reaction of R1CH2CHO with R2CH2CHO in an inert organic solvent, followed by reduction
of the resulting R1CH2CH:CR2CHO in the presence of an, optionally calcined, copper-**zinc catalyst.** Thus, aldol condensation of α-campholenealdehyde with EtCHO gave unsatd. aldehyde I (R = CHO), which was reduced with a calcined copper-**zinc catalyst** in EtOH to give unsatd. alc. I (R = CH2OH). I can be used in perfumes and cosmetic prepns.

L2 ANSWER 3 OF 8 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1992:410257 CAPLUS
DOCUMENT NUMBER: 117:10257
TITLE: Influence of sulfur poisoning of copper/alumina catalyst on the selective hydrogenation of crotonaldehyde
AUTHOR(S): Hutchings, G. J.; King, F.; Okoye, I. P.; Rochester, C. H.
CORPORATE SOURCE: Leverhulme Cent. Innovative Catal., Univ. Liverpool, Liverpool, L69 3BX, UK
SOURCE: Applied Catalysis, A: General (1992), 83(2), L7-L13
CODEN: ACAGE4; ISSN: 0926-860X
DOCUMENT TYPE: Journal
LANGUAGE: English
ABSTRACT:
The effect of the presence of thiophene (I) on the activity and selectivity of a Cu/Al2O3 catalyst was examined by selective hydrogenation of crotonaldehyde under different reaction conditions. Cu/Al2O3 in the absence of S poisons produced preferentially BuOH, whereas catalysts pre-dosed with a suitable amount of I shifted the product distribution towards formation of crotyl alc. (II). The formation of II under these conditions was favored at low conversions and low temperature, and the maximum selectivity of 64% II was achieved at 80°.

L2 ANSWER 7 OF 8 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1976:135120 CAPLUS
DOCUMENT NUMBER: 84:135120
TITLE: β,γ-Unsaturated aldehydes
INVENTOR(S): Ichikawa, Yataro; Naruchi, Tatsuyuki; Yamanaka,

Yoshiyuki; Suzuki, Nobuo; Kabayashi, Osamu; Sooma, Kazuhiko
PATENT ASSIGNEE(S): Teijin, Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 8 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 3
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| JP 50135012 | A2 | 19751025 | JP 1974-44402 | 19740422 |
| JP 58020938 | B4 | 19830426 | | |
| BE 828169 | A1 | 19750818 | BE 1975-155598 | 19750421 |
| US 4110403 | A | 19780829 | US 1975-569686 | 19750421 |
| NL 7504754 | A | 19751024 | NL 1975-4754 | 19750422 |
| FR 2268004 | A1 | 19751114 | FR 1975-12486 | 19750422 |
| DE 2517859 | A1 | 19760311 | DE 1975-2517859 | 19750422 |
| DE 2517859 | B2 | 19770623 | | |
| DE 2517859 | C3 | 19850404 | | |
| CH 615898 | A | 19800229 | CH 1975-5098 | 19750422 |

PRIORITY APPLN. INFO.: JP 1974-44402 19740422
JP 1974-44403 19740422
JP 1974-111643 19740930

ABSTRACT:
β,γ-Unsatd. alcs. were dehydrogenated over Cu of sp. surface from 0.01 to 1.5 m2/g at 150-300° in a gas phase to give β,γ-unsatd. aldehydes. Thus, CH2:CMeCH2CH2OH was passed over Cu (0.10 m2/g) at 240° at 3.0 g/hr for 3 hr to give 77% conversion and 21 and 19% selectivity to CH2:CMeCH2CHO and Me2C:CCHO, resp.

L2 ANSWER 8 OF 8 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1976:135119 CAPLUS
DOCUMENT NUMBER: 84:135119
TITLE: β,γ-Unsaturated aldehydes
INVENTOR(S): Ichikawa, Yataro; Naruchi, Tatsuyuki; Yamanaka, Yoshiyuki; Suzuki, Nobuo; Kabayashi, Osamu; Sooma, Kazuhiko
PATENT ASSIGNEE(S): Teijin, Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 11 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 3
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| JP 50135013 | A2 | 19751025 | JP 1974-44403 | 19740422 |
| JP 58020939 | B4 | 19830426 | | |
| US 4110403 | A | 19780829 | US 1975-569686 | 19750421 |
| NL 7504754 | A | 19751024 | NL 1975-4754 | 19750422 |
| FR 2268004 | A1 | 19751114 | FR 1975-12486 | 19750422 |
| DE 2517859 | A1 | 19760311 | DE 1975-2517859 | 19750422 |
| DE 2517859 | B2 | 19770623 | | |
| DE 2517859 | C3 | 19850404 | | |
| CH 615898 | A | 19800229 | CH 1975-5098 | 19750422 |

PRIORITY APPLN. INFO.: JP 1974-44402 19740422
JP 1974-44403 19740422
JP 1974-111643 19740930

ABSTRACT:
β,γ-Unsatd. alcs. were dehydrogenated over Cu in the presence of water vapor to give β,γ-unsatd. aldehydes. Thus, CH2:CMeCH2CH2OH

and H2O were passed at 250° and at 20 and 38 g/hr resp. over Cu for 24 hr to give CH2:CMeCH2CHO, Me2C:CCHO, isovaleraldehyde, and saturated isoalcs. at 30, 41, 24, and 3% selectivity resp. The catalyst was prepared by calcining a Cu net at 800° for 3 hr in air, cutting into 2-8 mm pieces, and reducing with a mixture of N and H at 250°.

=> log y

| COST IN U.S. DOLLARS | SINCE FILE ENTRY | TOTAL SESSION |
|---|---|---|
| FULL ESTIMATED COST | 27.19 | 27.40 |

| DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS) | SINCE FILE ENTRY | TOTAL SESSION |
|---|---|---|
| CA SUBSCRIBER PRICE | -3.47 | -3.47 |

STN INTERNATIONAL LOGOFF AT 23:22:00 ON 10 JUN 2004

| L Number | Hits | Search Text | DB | Time stamp |
|---|---|---|---|---|
| 4 | 10 | butenol same (zinc or copper) | USPAT | 2004/06/10 23:23 |
| 5 | 5 | butenol and ((zinc or copper) adj1 catalyst) | USPAT | 2004/06/10 23:26 |
| 6 | 1 | butenol and ((zinc or copper) adj1 catalyst) | EPO; JPO; DERWENT | 2004/06/10 23:26 |